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| 10/033,116 | 12/27/2001 | Raymond V. Damadian | 265/173 | 7678 |

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04/05/2006

Brandon N. Sklar
Kaye Scholer LLP
425 PARK, AVE.
NEW YORK, NY 10022-3506

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| EXAMINER |
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RAMIREZ, JOHN FERNANDO

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| ART UNIT | PAPER NUMBER |
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3737

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/033,116 | Applicant(s) DAMADIAN ET AL. | |
| | Examiner John F. Ramirez | Art Unit 3737 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 9, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 15-24, 28-33, 35 and 39-50 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 25-27, 34, and 36-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

After a review of applicant's remarks, all necessary changes to the claims, drawings and specifications have been entered. Accordingly, claim 6 have been cancelled and claims 49 and 50 have been added.

Applicant's arguments filed February 9, 2006 have been fully considered but they are not persuasive.

With respect to the 103(a) rejection that there is no teaching or suggestion in the Fiberstars reference that such a projector would be useful in an MRI system, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the light projector in Kuth is not flexible. However, the examiner of record respectfully disagrees with applicant's comments. In column 3, lines 17-27, the specifications of the Kuth patent specifically states:

In a plan view, FIG. 2 shows the second end 30 of the lightguide arrangement 26 with the optically coupled deflection optics 32 (the upper pole shoe 10 not being shown for clarity). The end 30 with the deflection optics 32 can be firmly glued to the surface of the pole shoe 10; however, it can also be arranged movable in a guide, this being symbolized by the double arrow 38 for the longitudinal direction and by the double arrow 40 for the transverse direction. The lightguide arrangement must have loops 42 providing excess length to permit adjustability in the longitudinal direction.

In a further embodiment of the deflection optics 32 (not shown in the drawings), a number of prisms are provided with each prism individually allocated to each optical fiber 34. In terms of effect, this embodiment is equivalent to the embodiment with a mirror 33 already described with reference to FIG. 1.

Encarta® World English Dictionary, North American Edition defines the term "flexible" as able to adapt to new situation: able to change or be changed according to circumstances. Accordingly, the Kuth patent in Figure 2 and column 3, lines 17-27 discloses an adjustable or adaptable light. The Kuth patent anticipates the applicant's invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9-12, 15, 16, 42-46, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuth (U.S. Patent No. 5,627,470).

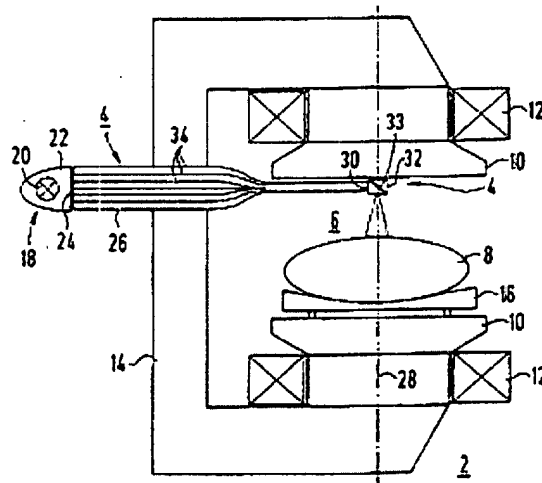


FIG 1

With respect to claims 1-5, 9-12, 15, 16, Kuth shows in Figure 2 and discloses a ferromagnetic frame (14), first and second opposing poles (10) with canopies (see element 10 which is interpreted referring to pole shoes "covering" the poles thereby serving as "canopy") defining an imaging volume (6) and a light projector (32) connected to the first integral canopy (10). Kuth shows in Figure 1 a light source (20) optically coupled to the light projector by a bundle of optical fibers (34), wherein the opposing poles are aligned along a vertical axis such that one of the poles is an upper pole and the other of the poles is a lower pole, wherein the at least one light projector is coupled to the upper pole, and wherein the MRI system is an open MRI system.

Regarding claims 42-43, Kuth discloses a magnetic resonance system having illumination means that makes adequately high luminance for surgical procedures. (Col.1, lines 44-48).

With respect to claim 50, Kuth, in figure 1 shows that the first canopy has a periphery, and the light projector is connected to the first canopy proximate the periphery.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 17, 18, 19, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuth (U.S. Patent No. 5,627,470) in view of Torchia et al. (U.S. 2004/0249261). Kuth teaches substantially, all of the features of the present invention including a magnet assembly (12), a light source (20) that is obvious to be connected to an alternating current power source, a light projector (32), optical connection means (26), a lightguide that is formed by a bundle of optical fibers (34), a ferromagnetic frame (14), first and second opposing poles with integral canopies (10). Kuth does not disclose means connecting the light source to the light projector through a wall of the shielded room. In the same field of endeavor, Torchia et al. teaches this feature (Page 5, Paragraph 0125), showing that any object that is shielded would prevent interference with the small radio frequency signals that must be detected for the MRI analysis to be effective (Page 7, Paragraphs 0145, 0146). It would have been obvious to one of ordinary skill in the art at the time of invention was made to have placed the light source

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arrangement of Torchia et al. in the magnetic resonance imaging system of Kuth in order to prevent interference with radio frequency signals in the operation of the MRI system.

Claims 7-8, 20-23, 40-41 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuth as applied to claim 1 in further view of Fiberstars Lighting for the 21st Century (Specifications and Submittal sheet 210, 219, 220), of record. Fiberstars teaches substantially all of the features of the present invention including a fiber optic lighting system that consist of a plurality of jointed segments snapped together, each segment having a rounded and recessed end to create a flexible and aimable light projector, in order to safely highlight the area of interest and illuminate difficult or inaccessible areas (see section of Application). It would have been obvious to one of ordinary skill in the art at the time of invention was made to have placed the light projector of Fiberstars in the magnetic resonance imaging system of Kuth in order to provide a flexible and aimable illumination towards the patient and the site of interest thereby providing the user with safe highlighting and easy illumination of difficult or inaccessible areas as taught by Fiberstars during the MRI medical procedure.

Claim 29-33, 35, 39 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuth in view of Damadian et al. Kuth teaches substantially, all of the limitations of the claimed subject matter except for mentioning specifically an open MRI system having a first insulative canopy covering the first pole and a second canopy covering the second pole, and wherein the light sources comprises a bulb to emit visible light.

However, an open MRI system having a first insulative canopy covering the first pole and a second canopy covering the second pole, and wherein the light sources comprises a bulb to emit visible light are considered conventional in the art as evidenced by the teachings of Damadian et al. in figures 2 & 21 and related description.

Based on the above observations, for a person of ordinary skill in the art, modifying the system disclosed by Kuth, with the above discussed enhancements would improve to stabilize the magnet frame temperature, helping stabilize the magnetic properties of the frame and stabilizes the magnetic field provided in the magnet gap.

Allowable Subject Matter

Claims 13, 14, 25-27, 34 and 36-38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The present invention pertains to a MRI system. In regards to Claims 25-27, it is the examiner's opinion that the art of record considered as a whole, alone or in combination, neither anticipates nor renders obvious a connected light projector to a canopy defined by the applicant as having at least one recessed portion and the light projector is connected to the first canopy within the recessed portion, together in combination with the rest of the limitations or the dependent claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

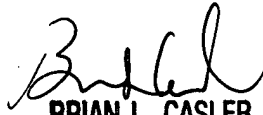
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JFR
03/28/06


BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700